



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,695	02/10/2004	Tuomo Lehtonen	59244.00008	7389

32294 7590 10/05/2005

SQUIRE, SANDERS & DEMPSEY L.L.P.  
14TH FLOOR  
8000 TOWERS CRESCENT  
TYSONS CORNER, VA 22182

EXAMINER

KWOK, HELEN C

ART UNIT PAPER NUMBER

2856

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/774,695	LEHTONEN, TUOMO	
	<b>Examiner</b>	<b>Art Unit</b>	
	Helen C. Kwok	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Terminal Disclaimer***

1. The terminal disclaimer filed on July 8, 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on Application Number 10/774,695 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3-11 and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,000,287 (Menzel).

Menzel discloses an angular motion accelerometer comprising, as illustrated in Figures 1-7, at least one pair of electrodes comprises a movable electrode 24 and at least one stationary plate portion 34 wherein the movable electrode is free to rotate in a rotational motion along an axis of rotation such that a capacitance change between the movable electrode and the plate portion is enhanced by the shape of the electrodes or the gap between the electrodes. Furthermore, the pair of electrodes are shaped by a significant portion of the area of either the movable electrode or the stationary plate

Art Unit: 2856

portion or both electrodes; the movable electrode is supported at two support points by torsion springs 30 for bending and rotating; a second stationary electrode 40. (See, column 3, line 14 to column 5, line 53).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,000,287 (Menzel) in view of U.S. Patent 5,831,164 (Reddi et al.).

With regards to claims 12-14, Menzel does not disclose the pair of electrodes is shaped in a triangle or a drop or a hammer; but does teach the pair of electrodes are shaped in a trident and rectangular shape. (See, column 1, line 66 to column 2, line 4). Reddi et al. suggests the pair of electrodes maybe of any shape. (See, column 6, lines 30-31). It would have been obvious to a person of ordinary skill in the art at the time of invention to have readily recognize the advantages and desirability of constructing the pair of electrodes to be any shape as suggested by Reddi et al. to the apparatus of Menzel to provide a plurality of accelerometers with different dimensions for the electrodes such that each accelerometer has a different sensitivity to acceleration without significant changes in the basic construction of the accelerometers, namely

Art Unit: 2856

having a moving electrode and a stationary electrode. Furthermore, it is well known one can design an element to a different form or shape without departing from the scope of the invention. (NOTE: In re Dailey, 149, USPQ 47 (CCPA 1976)).

***Response to Amendment***

6. Applicant's arguments filed July 8, 2005 have been fully considered but they are not persuasive.

Applicant argues that the reference, Menzel, fails to disclose the capacitance change between the movable electrode in rotational motion and the plate portion is enhanced by means of the shape of the electrodes.

The Examiner disagrees with Applicant. Menzel does teach the capacitance change between the movable electrode in rotational motion and the plate portion is enhanced by means of the shape of the electrodes. In column 1, line 52 to column 2, line 4, Menzel suggests the desired sensitivity (i.e. enhancement) for the capacitance sensor is by changing the plate portion (i.e. stationary electrode) center of area relative to the movable electrode. This is performed by changing the length of the stationary electrode. Hence by changing the shape of the stationary electrode (i.e. the length of the stationary electrode), the capacitance change between the movable electrode and the stationary electrode is enhanced by the shape of the electrode. As observed in Figures 5-6 and described in column 5, lines 26-53, the shape (i.e. length) of the stationary electrode is altered to obtain the desired sensitivity for the acceleration sensor.

**Conclusion**

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The reference cited is related to a sensor having the shape of the electrode changed.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

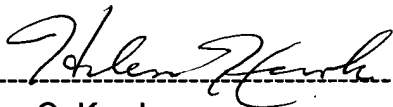
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen C. Kwok whose telephone number is (571) 272-2197. The examiner can normally be reached on 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone

Art Unit: 2856

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
-----  
Helen C. Kwok  
Art Unit 2856

hck  
September 29, 2005